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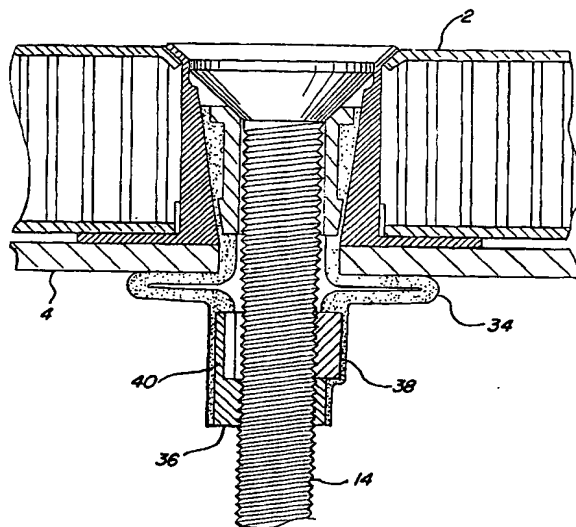
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(54) Title: AN EXPANDED FASTENER FOR A HONEYCOMB STRUCTURE AND METHOD OF ASSEMBLY



(57) Abstract: An expanding panel fastener assembly (12) for affixing a honeycomb panel structure (2) to a support structure (4) is disclosing having an insert member (6) that attaches to a hole (8) drilled within the honeycomb panel (2). A flexible sleeve and retainer assembly (12) includes a molded flexible sleeve (34), an expander member (38) and a retainer member (36). A sleeve spacer (32) can further be attached to the flexible sleeve (34) to assist in retaining it within the insert member. By providing a fastener (14) for engagement with the retainer member (36), the expander member (38) can further prevent withdrawal of the retainer member and can further assist in expanding the flexible sleeve to provide a sealing configuration with any support structure.

WO 2004/063572 A3



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A. CLASSIFICATION OF SUBJECT MATTER

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US CL : 52/793.1, 745.21; 411/34, 428/116

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 52/126.5, 364, 793.1, 787.1, 745.21; 411/34, 43, 311, 546; 428/116

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| A | US 3,443,473 A (TRITT) 13 May 1969 (13.05.1969). See entire document. | 1-15 |
| A | US 3,526,072 A (CAMPBELL) 01 September 1970 (01.09.1970) See entire document | 1, 8, 14-15 |
| Y | US 6,298,633 A (McCORKLE ET AL.) 09 October 2001 (09.10.2001). See entire document. | 1, 8, 14 |
| Y | US 6,224,309 A (YAMAMOTO) 01 May 2001 (01.05.2001). See entire document | 1-15 |
| Y | US 4,557,100 A (GORGES) 10 December 1985 (10.12.1985). See entire document. | 1, 8, 14 |
| Y | US 4,324,517 A (DEY) 13 April 18982 (10.04.1982). See entire document. | 5-6, 11-12 |

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